

Tin and Its Alloys

Edited by Dr. Ernest S. Hedges, with the collaboration of Prof. J. W. Cuthbertson, Prof. E. C. Ellwood, Dr. W. E. Hoare and W. R. Lewis. Pp. viii + 424. (London: Edward Arnold (Publishers), Ltd., 1960.) 126s. net.

THIS book of more than four hundred pages is more in the nature of an encyclopædia than a text-book, and no significant aspect of tin and its uses is overlooked. Prepared by experts in the different aspects of the subject, all of whom are, or have been, connected with the Tin Research Institute, the treatment is authoritative. Despite the wide scope of the ground covered, there is nothing superficial in the discussions, and the 187 figures are well reproduced and pertinent.

After an introduction by Dr. E. S. Hedges, tin in its cast and wrought forms is dealt with, and it will come as a surprise to many to learn that several tons of the metal are to be seen in the enormous pipes in the organ at the Albert Hall in London. Two chapters are concerned with the physical metallurgy and chemical behaviour of tin and its alloys. The approach, however, is really to the user of the metal, and the treatment of the scientific aspects is subordinate to the more directly practical. It is, however, adequate both for the purposes of the manufacturer and for the engineer, chemical or otherwise, who uses the product. Where so much is good, it is almost invidious to single out Prof. Cuthbertson's account of the metallography of the bronzes for special mention.

The electrodeposition of tin and its alloys, hot-tinning, tin-plate, tin in bearing alloys, die-casting alloys, solders and bronzes are all treated at sufficient length to be really informative. The extent of the treatment is vast, and readers interested in the tomb of the Empress Maria Theresa, in the tinning of cast iron or in Babbitt's original patent of 1839 will all find what they seek.

Within the obvious limitations of the space available, it is difficult to see how this publication could have been bettered. F. C. THOMPSON

The Moon

Our Nearest Celestial Neighbour. By Prof. Zdeněk Kopal. Pp. vii + 131 + 15 plates. (London: Chapman and Hall, Ltd., 1960.) 25s. net.

FOR many years the Moon was neglected by all except a few enthusiastic amateur observers. The recent developments in space research have led to a welcome change of attitude, and professional astronomers also have begun to pay attention to lunar studies. The latest book on the subject, by Prof. Z. Kopal of the University of Manchester, is written at an elementary level, and may be followed throughout by the layman; its greatest appeal will probably be to younger readers. It is attractively produced, and the photographs, many of which have been taken at the Pic du Midi Observatory, are excellent.

Beginning with fundamental facts, the author goes on to describe what he calls "the Strange World of the Moon", and considers the various theories of crater formation. On this controversial subject he is wisely cautious, and believes that both vulcanism and meteoric impact may have played a part in the moulding of the surface. The actual nature of the surface is further discussed in the next

two chapters, after which a section is devoted to the observation of an outbreak inside the crater Alphonsus, reported in 1958 by the Russian astronomer N. A. Kozyrev. The final chapter is entitled "Destination Moon", and is frankly speculative, though the author carefully refrains from any flights of fancy.

A few minor criticisms may be made. In particular, some of the important studies of recent years are not mentioned; a notable omission is any reference to G. Fielder's investigations with regard to the lunar grid system. There are also one or two over-simplifications, and a number of misprints, such as 'air' instead of 'aid' on p. 19. The general impression is, however, of a very pleasant and readable little book. PATRICK MOORE

Practical Organic Chemistry

By Dr. Frederick George Mann and Dr. Bernard Charles Saunders. Fourth edition. Pp. xix + 585. (London: Longmans, Green and Co., Ltd., 1960.) 25s. net.

FOUR editions within twenty-five years testify to the success of this book in a highly competitive market. They also mark the authors' concessions to the claims of evolving techniques. In this latest edition increased emphasis is given to semi-micro methods, both of preparing and characterizing organic compounds; there is a section—all too brief—on chromatography, including the use of ion-exchange resins; the scope of qualitative analysis is enlarged over that of previous editions; and the variety of standard syntheses is increased by new examples. Spectroscopy is not included, and perhaps this is wise although, even in organic teaching laboratories, automatically recorded spectra are now increasingly invoked. Certainly, in spite of judicious pruning, the new edition is larger by more than a hundred pages and further increase must bring into question the advisability of combining within a single volume both elementary and more advanced techniques. Meanwhile, "Mann and Saunders" maintains the style and character which have given it wide acceptance. J. D. LOUDON

Qualitative Organic Analysis

By B. Haynes. Pp. 239. (London: Cleaver-Hume Press, Ltd., 1961.) 17s. 6d.

THIS book is designed for students in the range from National Certificate to university-level. It is self-contained in that detailed instructions for each step towards identifying a simple substance or mixture are combined with reference tables of melting points and boiling points for a generous selection of compounds and their useful derivatives. It gives the author's approach to teaching the subject and bears his emphases and preferences. Stress is placed on preliminary tests, chemical formulae and equations are deliberately omitted, and supplementation by lectures is implied. A good standard of lucid description is maintained throughout, but the order in which classification tests are arranged will not appeal to all tastes, and more generally, one feels that the student may have difficulty in penetrating the mass of detail to the principles underlying the analysis. However, the book is rich in sound, useful information and fully merits consideration by teachers of the subject. J. D. LOUDON